Patent Claims

1. A computer tomography unit having a radiation detector (4) which has a number of detector elements (6a-6x), having a data acquisition system (10) for reading the electrical signals which are produced by the detector elements (6a-6x) and for processing them to form raw data, and having an image computer (12) which is arranged downstream from the data acquisition system (10) and to which the raw data can be supplied via a data transmission path (11),
characterized by
an evaluation device (18) for automated assessment of the quality of the data acquisition system (10) and/or of the data transmission path (11).

2. The computer tomography unit as claimed in claim 1,
characterized in that the evaluation device (18) is additionally designed for automatic assessment of the quality of the radiation detector (4).

3. The computer tomography unit as claimed in claim 1 or 2,
characterized in that the following steps can be carried out by the evaluation device (18):

a) initiation of one or more measurements for production of raw data,
b) using the raw data, calculation of at least one value of at least one parameter which allows a quality statement,
c) driving of a display device (20) in order to display an evaluation result in which the calculated value is included.

4. The computer tomography unit as claimed in claim 3,

characterized in that the evaluation device (18) can compare the calculated value with a tolerance limit which can be predetermined or is read from a memory (21).

5. The computer tomography unit as claimed in claim 3 or 4,
characterized in that the evaluation result can be displayed graphically on the display device (20), in particular with two or more parameters being combined to form a graphical pattern.

6. The computer tomography unit as claimed in one of claims 3 to 5,
characterized by
a memory device (22) for storage of the evaluation result.

7. The computer tomography unit as claimed in one of claims 3 to 6,
characterized in that the parameter is suitable for assessment of the quality of the data acquisition system (10), of a component, of a module element or of a subarea of the data acquisition system (10).

8. The computer tomography unit as claimed in claim 7,
characterized in that the parameter is suitable for assessment of an electronics channel which is associated with a detector element, in particular for assessment of an integrator (30a-30x) in the electronics channel, for assessment of a monitor channel, for assessment of a demultiplexer (31), or for assessment of an A/D converter (33).

9. The computer tomography unit as claimed in one of claims 3 to 6,
characterized in that
the parameter is suitable for assessment of the data transmission path (11).

10. The computer tomography unit as claimed in one of

claims 3 to 6,
characterized in that the parameter is suitable for assessment of the quality of the radiation

detector (4), in particular for assessment of a single detector element (6a-6x) in the radiation detector (4).

11. The computer tomography unit as claimed in claim 10,
characterized in that
the parameter describes a signal offset.

12. The computer tomography unit as claimed in claim 10,
characterized in that the parameter describes spectral linearity or signal linearity.

13. The computer tomography unit as claimed in one of claims 3 to 12,
characterized in that the evaluation device determines the value of the parameter statistically from the measured raw data.

14. The computer tomography unit as claimed in one of claims 1 to 13,
characterized in that the evaluation device is implemented by driving by means of appropriate software which, in particular, is provided in a computer (16), in particular in a control computer, which is fitted away from the gantry (7).